

What is claimed is:

1 1. An inflator device for inflating an inflatable restraint element, the
2 inflator device comprising:

3 an enclosed housing having an elongated length and opposed first and
4 second ends;

5 a quantity of a gas generant material disposed within the housing, the
6 gas generant material having a non-gaseous, fluid form and substantially extending
7 between the first and second ends of the housing; and

8 an initiator device disposed adjacent the housing, upon actuation, the
9 initiator device having a discharge portion in reaction initiating contact with at least
10 a portion of the quantity of the gas generant material disposed within the housing;

11 wherein upon actuation, the initiator device initiates reaction of the gas
12 generant material to produce inflation gas.

1 2. The inflator device of claim 1 wherein the initiator device is
2 disposed adjacent the housing at the first end thereof.

1 3. The inflator device of claim 1 wherein the initiator device is
2 disposed adjacent the housing at a point intermediate the first and second ends thereof.

1 4. The inflator device of claim 1 additionally comprising a sheath
2 disposed about the exterior of the housing.

1 5. The inflator device of claim 1 additionally comprising an ignition
2 device disposed within the housing and substantially extending between the first and
3 second ends thereof.

1 6. The inflator device of claim 1 wherein the housing has sufficient
2 flexibility to permit the inflator device to be shaped to a non-linear elongated axis
3 form.

1 7. The inflator device of claim 1 wherein the gas generant material
2 contains a quantity of sensitizing gas.

1 8. The inflator device of claim 7 wherein the sensitizing gas is
2 selected from the group consisting of oxygen, nitrous oxide, carbon dioxide and
3 mixtures thereof.

1 9. The inflator device of claim 7 wherein the sensitizing gas
2 comprises nitrous oxide.

10. The inflator device of claim 7 wherein the sensitizing gas comprises carbon dioxide.

11. The inflator device of claim 7 wherein the sensitizing gas comprises a combustible mixture.

12. The inflator device of claim 1 wherein the gas generant material is in the form of a liquid.

13. The inflator device of claim 1 wherein the gas generant material is in the form of a paste.

14. The inflator device of claim 1 wherein the housing is tubular.

15. The inflator device of claim 14 wherein the tubular housing is of circular cross section.

16. The inflator device of claim 14 wherein the tubular housing is of non-circular cross section.

1 17. An inflator device for inflating an inflatable restraint element, the
2 inflator device comprising:

3 a tubular housing having an elongated length and opposed first and
4 second ends;

5 a quantity of a gas generant material disposed within the tubular
6 housing, the gas generant material having a non-gaseous, fluid form and substantially
7 extending between the first and second ends of the tubular housing, the gas generant
8 material containing a quantity of sensitizing gas selected from the group consisting of
9 oxygen, nitrous oxide, carbon dioxide and mixtures thereof;

10 an initiator device disposed adjacent the tubular housing, upon actuation,
11 the initiator device having a discharge portion in reaction initiating contact with at
12 least a portion of the quantity of the gas generant material disposed within the tubular
13 housing; and

14 a sheath covering disposed about the exterior of the tubular housing;

15 wherein upon actuation, the initiator device initiates reaction of the gas
16 generant material to produce inflation gas resulting in opening of the tubular housing
17 and release of at least a portion of the inflation gas therefrom and wherein the sheath
18 covering is effective to retain therewithin fragmentary portions of the tubular housing
19 formed upon the opening thereof.

1 18. The inflator device of claim 17 wherein the initiator device is
2 disposed adjacent the housing at the first end thereof.

1 19. The inflator device of claim 17 wherein the initiator device is
2 disposed adjacent the housing at a point intermediate the first and second ends thereof.

1 20. The inflator device of claim 17 wherein the tubular housing has
2 sufficient flexibility to permit the inflator device to be shaped to a non-linear
3 elongated axis form.

1 21. In a method wherein a quantity of a liquid phase gas generant
2 material is reacted to produce gas, the improvement comprising:

3 including a sufficient quantity of a sensitizing gaseous matter in the
4 liquid phase gas generant material to improve reaction characteristics of the gas
5 generant material.

1 22. The method of claim 21 wherein the sensitizing gaseous matter
2 is selected from the group consisting of oxygen, nitrous oxide, carbon dioxide and
3 mixtures thereof.

1 23. The method of claim 21 wherein the sensitizing gas comprises
2 nitrous oxide.

1 24. The method of claim 21 wherein the sensitizing gas comprises
2 carbon dioxide.

1 25. The method of claim 21 wherein the sensitizing gas comprises
2 a combustible mixture.